

PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Examiner:	<b>Steven Wong</b>	
Title:	<b>MULTI-LAYER SOFTBALL</b>	
Docket No.	<b>043596.091</b>	
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Sir:

**AMENDMENT UNDER 37 C.F.R. § 1.116**

In response to the Office Action of March 30, 2006, regarding the above-referenced matter, applicants hereby request reconsideration of the application.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 5 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1. (currently amended) An improved competitive game ball comprising:

    a core comprising a central core and no more than two mantle layers, wherein the central core has a first hardness and a coefficient of restitution of greater than about 0.45 to about between about 0.40 to 0.50 at 88 feet/second;

    a first mantle layer surrounding said central core, said first mantle layer having a second hardness less than said first hardness; and

    a cover surrounding said first mantle layer.

Claim 2. (original) The improved game ball as described in claim 1, wherein said central core comprises a first urethane composition.

Claim 3. (currently amended) The improved game ball as described in claim 2, wherein said first urethane composition includes a first mixture of a polyol and an isocyanate, wherein the mix ratio of polyol to isocynate is from about 100/80 parts by weight to greater than about 100/40 parts by weight.

Claim 4. (original) The improved game ball as described in claim 1, wherein said first mantle layer comprises a second urethane composition.

Claim 5. (previously presented) The improved game ball as described in claim 4, wherein said second urethane composition includes a second mixture of a polyol and an isocyanate.

Claim 6. (previously submitted) The improved game ball as described in claim 1 further comprising:

a second mantle layer positioned between said first mantle layer and said cover, said second mantle layer having a third hardness that is harder than said second hardness of said first mantle layer.

Claim 7. (previously submitted) The improved game ball as described in claim 6 , wherein said second mantle layer comprises a third urethane composition.

Claim 8. (original) The improved game ball as described in claim 7, wherein said third urethane composition includes a first mixture of a polyol and an isocyanate.

Claim 9. (original) The improved game ball as described in claim 5 wherein said central core comprises a diameter substantially between 3.40 inches and 3.44 inches.

Claim 10. (original) The improved game ball as described in claim 5 wherein said first mantle layer comprises a thickness of substantially between 0.05 inches and 0.500 inches.

Claim 11. (previously presented) The improved game ball as described in claim 6 wherein said second mantle layer comprises a thickness of substantially between 0.05 inches and 0.25 inches.

Claim 12. (cancelled herewith)

Claim 13. (currently amended) The improved game ball as described in claim 1, wherein the compression of said game ball is between about 325 [[175]] and 475 pounds.

Claim 14. (currently amended) A multi-layer competitive game ball comprising:

a composite core including a central core having a first urethane composition with a coefficient of restitution of greater than about 0.45 and less than about between about 0.40 and 0.50 at 88 feet per second and a first mantle layer having a second urethane composition, wherein said second urethane composition of said first mantle layer is softer than said first urethane composition of said center core; and

a cover surrounding said composite core.

Claim 15. (previously presented) The multi-layer game ball as described in claim 14 further comprising:

a second mantle layer surrounding said composite core, said second mantle layer positioned between said composite core and said cover, wherein said second mantle layer is harder than said first mantle layer.

Claim 16. (previously presented) The multi-layer game ball as described in claim 15, wherein said second mantle layer comprises a third urethane composition.

Claim 17. (previously presented) The multi-layer game ball as described in claim 14 wherein said central core comprises a diameter substantially between 3.40 inches and 3.44 inches.

Claim 18. (previously presented) The multi-layer game ball as described in claim 14 wherein said first mantle layer comprises a thickness of substantially between 0.05 inches and 0.500 inches.

Claim 19. (cancelled herewith)

Claim 20. (currently amended) The multi-layer game ball as described in claim 14, wherein the compression of said game ball is between about 325 [[175]] to 475 pounds.

Claim 21. (previously presented) The improved game ball as described in claim 3, wherein the mix ratio of polyol to isocynate produces a compression of said central core between about 350 lbs. and about 550 lbs.

Claim 22. (previously presented) The improved game ball as described in claim 1, wherein said central core has a weight of between approximately 100 grams and approximately 115 grams, and said first mantle layer has a weight of approximately 50 grams.

**REMARKS/ARGUMENTS**

Reconsideration is respectfully requested of the Final Office Action of March 30, 2006, relating to the above-identified application and entry of the foregoing amendment after final is respectfully requested for the purpose of placing the application in condition for allowance, or alternatively in better condition for appeal.

Upon entry of this amendment, claims 1-11, 13-18, and 20-22 remain pending in this application. Claims 1, 13, 14, and 20 have been amended, and support for the Amendment is found in the specification as originally presented. No new matter has been incorporated by this Amendment. Claims 1-11, 13-18, and 20-22 stand rejected under 35 U.S.C. § 103 with respect to U.S. patents to *Yang* (5,704,858) in view of *Talarico* (5,951,420) and *Walker* (5,647,590). Applicants respectfully submit that the references fail to establish *prima facie* obviousness of the claimed invention.

**Claims 1 and 14**

Looking initially to amended claims 1 and 14, the central core is described as having a coefficient of restitution of between about 0.45 to 0.50 at 88 feet/second. None of the various references cited describe a core having a coefficient of restitution within this range. *Walker*, the reference cited in the Office Action as describing a core having coefficient of restitution within the range of the claims of the present application, provides that the coefficient of recitation at 88 feet/second is less than 0.45, and preferably in the range of 0.30 to 0.40. See *Walker*, Abstract. Thus, *Walker* only describes the use of a core having a coefficient of restitution between 0.30 and 0.44, and does not teach a core having a coefficient of restitution as defined in the currently amended claims. Because none of the references describe a competitive softball having the

coefficient of restitution as defined in the present claims, the rejection of these claims as obvious in view of the cited references is due to be withdrawn.

Furthermore, in Applicant's Response dated October 28, 2005, Applicant clarified that the elimination of the layer (14) from the ball of *Yang* would create a hard ball that is not fit for the particular purpose espoused in *Yang*. In response, the Office Action provided that the removal of the first inner layer (12) from the ball of *Yang* would create a harder baseball, but the intended purpose of the ball would still remain due to the presence of the soft layer (14). Applicant wishes to elucidate, however, that *Yang*'s safety baseball requires each layer to meet the requirements to retain the desired properties of the safety baseball. Specifically, the first layer (12) of *Yang* is clearly required to provide the cushioning layer for absorbing vibrations and shocks. Col. 2, lines 16-19. The removal of layer (12) from *Yang* as suggested in the previous Office Action would leave a ball having a hard core (11) directly connected with a hard second layer (13), and an outer layer (14) providing the only surface for cushioning and shock absorption, and not meeting the desired traits for the safety baseball. That is, to modify *Yang* as asserted would transform the claimed design from its intended purpose as a safety ball for children, and yield a ball having a hard core with no inner cushioning layer to absorb shock, thereby still being capable of harming users, especially the children that are intended to use the ball (see col. 1, lines 9-15).

This is contrary to the principles of operation set forth in *Yang*, and courts have unswervingly held that “[I]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Additionally, “[I]f the proposed modification or combination of the prior art would

change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959). Since the modifications of *Yang* would be against its taught purpose, the rejection of Claims 1 and 14 under 35 U.S.C § 103(a) in view of *Yang* is improper and is due to be withdrawn.

Moreover, a person having ordinary skill in the art would not combine *Walker* with *Yang*. As noted in Applicant's earlier response, *Walker* discloses a ball that will have a reduced flight distance when struck, and structurally, *Walker* does not employ a core and mantle layer but rather has a core 12 which has COR less than the COR required in the claims, to which a cover 14 is stitched. In contrast, *Yang* is directed to a safety ball that is designed for use by children, and neither are designed for use in a conventional softball competition, as required by the competitive ball of the present invention. Thus, each of the references would have to be modified contrary to their intended purpose and contrary to their principles of operation, thus they are not properly applied under Section 103 since there is no motivation present or properly derived for such modification.. Accordingly, the rejection of claims 1 and 14 as amended, and those depending therefrom, is improper and is due to be withdrawn.

### Claim 3

With respect to claim 3, the Office Action previously asserted that *Walker* discloses a polyurethane foam formed from a mixture of 100 parts polyol and 33-40 parts of isocyanate. *Walker* further provides that the mixture is preferably 100 parts of polyether polyol with 35-38 parts of isocynate. *Walker*, col. 4, lines 51-52. Claim 3 as amended and supported in paragraph [0023] of the specification describes the mixture as being in the range from greater than 100/40 to 100/80. This range is not taught by *Walker*, in that the mixture taught is in the range of 100/33

to 100/40, with the preferred mixture range being 100/35 to 100/38. Therefore, Applicant submits that the present claimed range, which provides a softball with the desired properties for competitive play, is not taught in *Walker* or the other cited references.

Claims 13 and 20

With respect to claims 13 and 20, the Office Action asserts that the limitations are considered to be obvious given the teachings of *Yang* in view of *Talarico* and *Walker* and the lack of a showing of the criticality of the claimed ranges by a new and unexpected result obtained therefrom. However, Applicant's specification specifically recites in paragraph [0017] that "The goal is to achieve a certain coefficient of restitution (COR) and durability of the ball, and preferably, to have a low compression." Furthermore, in paragraph [022] of the specification, the Applicant asserts that the compression of the central core is most "preferably about 325 to 475 lbs" to provide a ball having the desired properties for competitive play. Therefore, Applicant submits that this range, in conjunction with the coefficient of restitution recited in the claims from which these claims depend, provide a softball with the desired properties for competitive play, and is not taught or suggested in the cited references.

Claim 21

With respect to claim 21, the Office Action additionally asserts that the limitations of the mix ratio of polyol to isocynate are considered to be obvious given the teachings of *Yang* in view of *Talarico* and *Walker* and the lack of a showing of the criticality of the claimed ranges by a new and unexpected result obtained therefrom. However, paragraph [0023] of the specification clearly recites that "These mix ratios will produce an central core 12 having a compression of about 350 to about 550 lbs., and the central core 12 will also be able to stand 185 blows on the Spalding 'Pound Test'." Applicant submits that this range, in conjunction with the coefficient of

restitution recited in the claims from which these claims depend, provides a softball with the desired properties for competitive play, and is not taught or suggested in the cited references. Since none of the references cited by the Examiner describe such a ratio of materials, in combination with the other elements of the claims from which claim 21 depends, claim 21 is not obvious in view of the cited references.

Conclusion

In view of the foregoing amendments and arguments, Applicants respectfully submit the rejection of the claims is improper as it does not establish that the subject matter claimed herein is *prima facie* obvious in view of the combination of references relied on by the Examiner, thereby placing the application in condition for allowance.

Respectfully submitted,

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